

# MPA 152

ENERGY STAR® Qualified Stereo Mini Power Amplifier



**Extron® Electronics**  
INTERFACING, SWITCHING AND CONTROL

# Safety Instructions

## Safety Instructions • English

**WARNING:** This symbol, ⚠, when used on the product, is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

**ATTENTION:** This symbol, ⚠, when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number **68-290-01**, on the Extron website, [www.extron.com](http://www.extron.com).

## Instructions de sécurité • Français

**AVERTISSEMENT:** Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

**ATTENTION:** Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec le matériel.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. **68-290-01**, sur le site Extron, [www.extron.fr](http://www.extron.fr).

## Sicherheitsanweisungen • Deutsch

**WARNUNG:** Dieses Symbol ⚠ auf dem Produkt soll den Benutzer darauf aufmerksam machen, dass im Inneren des Gehäuses dieses Produktes gefährliche Spannungen herrschen, die nicht isoliert sind und die einen elektrischen Schlag verursachen können.

**VORSICHT:** Dieses Symbol ⚠ auf dem Produkt soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

Weitere Informationen über die Sicherheitsrichtlinien, Produkthandhabung, EMI/EMF-Kompatibilität, Zugänglichkeit und verwandte Themen finden Sie in den Extron-Richtlinien für Sicherheit und Handhabung (Artikelnummer **68-290-01**) auf der Extron-Website, [www.extron.de](http://www.extron.de).

## Instrucciones de seguridad • Español

**ADVERTENCIA:** Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de voltaje peligroso sin aislar dentro del producto, lo que puede representar un riesgo de descarga eléctrica.

**ATENCIÓN:** Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de importantes instrucciones de uso y mantenimiento recogidas en la documentación proporcionada con el equipo.

Para obtener información sobre directrices de seguridad, cumplimiento de normativas, compatibilidad electromagnética, accesibilidad y temas relacionados, consulte la Guía de cumplimiento de normativas y seguridad de Extron, referencia **68-290-01**, en el sitio Web de Extron, [www.extron.es](http://www.extron.es).

## Chinese Simplified (简体中文)

**警告:** ⚠ 产品上的这个标志意在警告用户该产品机壳内有暴露的危险电压, 有触电危险。

**注意:** ⚠ 产品上的这个标志意在提示用户设备随附的用户手册中有重要的操作和维护(维修)说明。

关于我们产品的安全指南、遵循的规范、EMI/EMF 的兼容性、无障碍使用的特性等相关内容, 敬请访问 Extron 网站 [www.extron.com](http://www.extron.com), 参见 Extron 安全规范指南, 产品编号 68-290-01。

## Chinese Traditional (繁體中文)

**警告:** ⚠ 若產品上使用此符號, 是為了提醒使用者, 產品機殼內存在著可能會導致觸電之風險的未絕緣危險電壓。

**注意:** ⚠ 若產品上使用此符號, 是為了提醒使用者。

有關安全性指導方針、法規遵守、EMI/EMF 相容性、存取範圍和相關主題的詳細資訊, 請瀏覽 Extron 網站: [www.extron.com](http://www.extron.com), 然後參閱《Extron 安全性與法規遵守手冊》, 準則編號 68-290-01。

## Japanese

**警告:** この記号 ⚠ が製品上に表示されている場合は、筐体内に絶縁されていない高電圧が流れ、感電の危険があることを示しています。

**注意:** この記号 ⚠ が製品上に表示されている場合は、本機の取扱説明書に記載されている重要な操作と保守(整備)の指示についてユーザーの注意を喚起するものです。

安全上のご注意、法規遵守、EMI/EMF適合性、その他の関連項目については、エクストロンのウェブサイト[www.extron.com](http://www.extron.com)より『Extron Safety and Regulatory Compliance Guide』(P/N 69-290-01)をご覧ください。

## Korean

**경고:** 이 기호 ⚠, 가 제품에 사용될 경우, 제품의 인클로저 내에 있는 접지되지 않은 위험한 전류로 인해 사용자가 감전될 위험이 있음을 경고합니다.

**주의:** 이 기호 ⚠, 가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

안전 가이드라인, 규제 준수, EMI/EMF 호환성, 접근성, 그리고 관련 항목에 대한 자세한 내용은 Extron 웹 사이트([www.extron.com](http://www.extron.com))의 Extron 안전 및 규제 준수 안내서, 68-290-01 조항을 참조하십시오.

## FCC Class B Notice

**FC** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### NOTES:

- This unit was tested with shielded I/O cables on the peripheral devices. Shielded cables must be used to ensure compliance with FCC emissions limits.
- For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the “[Extron Safety and Regulatory Compliance Guide](#)” on the Extron website.

## Specifications Availability

Product specifications are available on the Extron website, [www.extron.com](http://www.extron.com).

## Conventions Used in this Guide

### Notifications

**ATTENTION:** Attention indicates a situation that may damage or destroy the product or associated equipment.

**NOTE:** A note draws attention to important information.

### Copyright

© 2012 Extron Electronics. All rights reserved.

### Trademarks

All trademarks mentioned in this manual are the properties of their respective owners.





# Contents

---

**Specifications Availability .....iii**

---

**Introduction..... 1**

- Important Safety Instructions ..... 1
- About the MPA 152 ..... 2
- MPA 152 Features ..... 2

---

**Panels and Cabling ..... 4**

- MPA 152 Rear Panel Features ..... 4
  - Power Connector ..... 5
  - Audio Inputs ..... 6
  - Remote Control ..... 7
  - Audio Output ..... 8

---

**Setup and Operation..... 9**

- Front Panel Features..... 9
  - Setting Input Level ..... 9
  - Setting Bass and Treble ..... 10
- Remote Control Options ..... 10
- Troubleshooting ..... 11
  - Amplifier Fails to Exit Standby Mode Promptly ..... 11
  - Amplifier Enters Standby Mode Too Early ..... 11

---

**Reference Material..... 12**

- Included Parts ..... 12
- Optional Accessories ..... 12
- Mounting ..... 13
  - Plenum Placement ..... 13
  - Tabletop Placement ..... 13
  - Rack Mounting ..... 14
  - Back of the Rack Mounting ..... 15
  - Under-desk Mounting ..... 15
  - Pole Mounting ..... 15
  - ZipClip™ 200 Mounting ..... 15




# Introduction

This manual contains information about the Extron MPA 152 mini power amplifier with instructions for experienced installers on how to install, configure, and operate the equipment. Unless otherwise specified, references in this manual to the “amplifier” or “MPA” relate to the features or operation of the MPA 152.

This section provides the following information:

- **Important Safety Instructions**
- **About the MPA 152**
- **MPA 152 Features**

## Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the instructions of the manufacturer.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for safety. If the provided plug does not fit into the outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments or accessories specified by the manufacturer.
12.  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

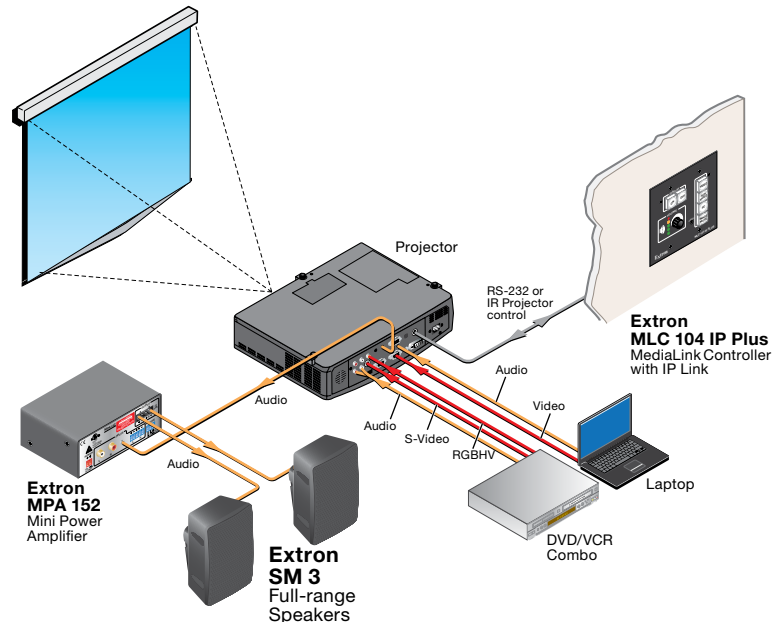
## About the MPA 152

The MPA 152 is an ENERGY STAR® qualified, high performance, compact, power amplifier. It delivers up to 15 watts (rms) per channel stereo or dual mono into a 4 ohm sound system, or 8 watts (rms) per channel into an 8 ohm system.

Front panel controls allow easy adjustment of bass and treble volume and input level.

The unit meets UL smoke and fire code for in-the-ceiling installations and can be stored in the plenum space of the roof.

Alternatively, the units can be mounted on a tabletop, in a rack, under a desk, or in a projector mounting kit.



**Figure 1.** Typical Application for the MPA 152

## MPA 152 Features

**ENERGY STAR® qualified amplifier** — The MPA 152 is available as an ENERGY STAR qualified amplifier, with an auto power-down feature that automatically places the amplifier into standby after 25 minutes of inactivity, dramatically reducing power consumption.

**Extron Patented CDRS™ - Class D Ripple Suppression** — CDRS is an Extron Patented technology that provides a smooth, clean audio waveform and an improvement in signal fidelity over conventional Class D amplifier designs. CDRS eliminates the high frequency switching ripple characteristic of Class D amplifiers, a source of RF emissions which can interfere with sensitive AV equipment such as wireless microphones.

**Ripple Steering technology** — Produces cleaner, low-emission, audio output signals.

**Fixed switching frequency** — Switches at a frequency below the AM band, which reduces the chance of radio interference.

**Three audio inputs** — Accepts one balanced or unbalanced input pair (captive screw), one unbalanced pair (RCA), and one unbalanced pair (TRS), providing up to three right and three left channel inputs. All three right inputs are summed to produce a single right output; all three left inputs are summed to produce a single left output.

**Stereo or Dual Mono toggle switch** — Allows the user to choose between stereo output or to combine the left and right outputs and produce dual mono outputs.

**Up to 15 watts (rms) per channel stereo output** — Delivers up to 15 watts (rms) per channel, stereo or dual mono, into a 4 ohm speaker system or up to 8 watts (rms) per channel into an 8 ohm system.

**Front panel controls** — Input level, bass and treble are easily adjusted from the front panel.

**Quick-plug speaker outputs** — Speaker output is on a captive screw connector for quick installation.

**Volume and mute remote control** — A rear panel, three-pin captive screw remote input connector allows remote adjustment of volume and muting.

**Always-on clip limiting** — Reduces gain automatically to prevent amplifier clipping.

**Compact size** — The amplifiers are housed in a 1U high, 3 inch deep, quarter rack metal enclosure, which offers flexible mounting options.

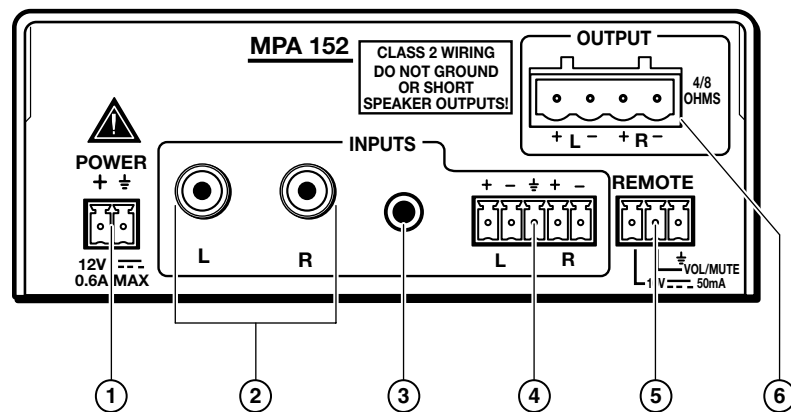
**UL 2043 plenum rated** — The MPA 152 meets UL 2043 for smoke and heat release for installation within a plenum airspace above a drop ceiling (power supply excluded). Above-the-ceiling placement conceals the amplifier to prevent theft, and is convenient for installing equipment when space inside the room is limited.

# Panels and Cabling

This section discusses the MPA 152 rear panel features and cabling.

## MPA 152 Rear Panel Features

The rear panel of the MPA 152 (shown in Figure 2 below) allows the user to connect **power**, **audio input**, **speakers**, and **remote control**.

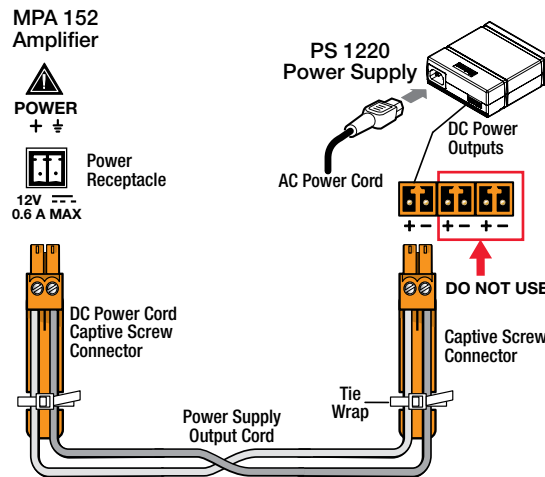


**Figure 2.** MPA 152 Rear Panels Features

## Power Connector

- ① **Power connector** — The MPA 152 ships with the Extron 24 W PS 1220 desktop power supply (part number **70-967-01**).

**ATTENTION:** When the PS 1220 power supply is connected to the MPA 152, it must not be shared with any other devices.



**Figure 3. Power Connector**

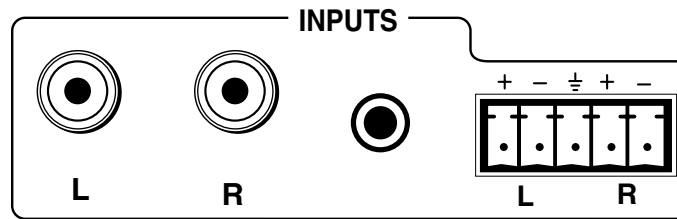
Connect the two-pole, 3.5 mm captive screw connector from the power supply to the power socket on the rear panel of the MPA 152, as shown above. Ensure the connections have the correct polarity.

### ATTENTION:

- Always use a power supply supplied by or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Suitable for use in environmental air space in accordance with Section 300.22.C of the National Electrical Code, and Sections 2-128, 12-010(3) and 12-100 of the Canadian Electrical Code, Part 1, C22.1.
- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code. The power supply shall not be permanently fixed to building structure or similar structure.
- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inches (5 mm). Any longer and the exposed wires may touch, causing a short circuit between them. Any shorter and the wires can be easily pulled out even if tightly fastened by the captive screws.

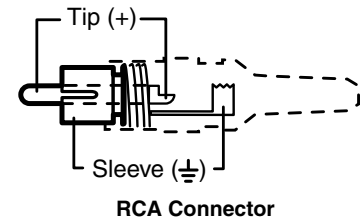
**NOTE:** Do not tin the wires. Tinned wire does not hold its shape and can become loose over time.

## Audio Inputs

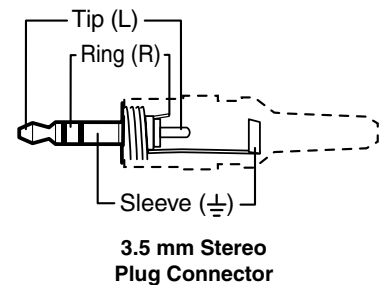


**Figure 4. Audio Inputs**

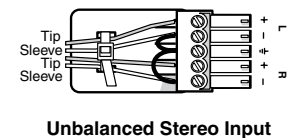
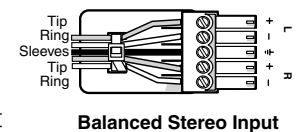
- ② **RCA input connectors** — These two connectors (left and right) accept unbalanced, line level audio signals. The input can be stereo (using two RCA jacks) or mono (using a single RCA jack plugged into the left socket). If unused, the connectors automatically terminate to lower the noise floor.



- ③ **3.5 mm stereo input** — This Tip-Ring-Sleeve (TRS) connector accepts unbalanced, line level audio signals. If unused, the connector automatically terminates to lower the noise floor.



- ④ **Balanced or unbalanced audio input connector** — This 5-pole, 3.5 mm captive screw input accepts balanced or unbalanced, mono or stereo, line level signals. See the **attention** and **note** on page 5 for important information about connecting wires to captive screw connectors.



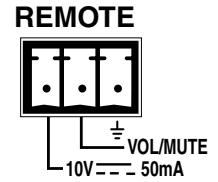
The three left channel inputs (RCA, TRS and captive screw) are summed to provide a single left channel output. The three right channel inputs are summed to provide a single right channel output.

Depending on the position of the front panel toggle switch (see **figure 7** on page 9), the right and left channels may be output as a stereo signal, or averaged and output as a dual mono signal.



## Remote Control

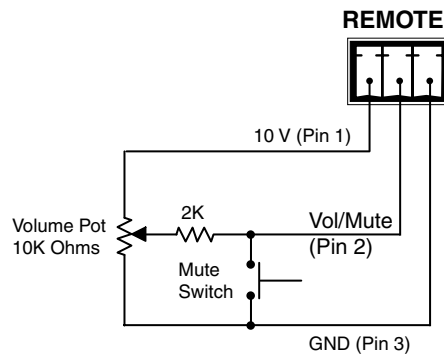
- ⑤ **Remote input connector** — This 3-pin, captive screw connector allows a wall-mounted audio controller or MediaLink product to control volume and mute levels remotely.



### Wiring for remote control

Options for remote control include the Extron VC 50, VCM 100 AAP, VCM 100 MAAP, VCM 200 series, and MLA VC10 Plus. For information about part numbers, see the list of [Optional Accessories](#) on page 12. Third party 10k potentiometer volume controllers can also be connected to this port.

Figure 5 and the instructions below, show the wiring for the VCM 100 MAAP. Wiring other remote control connectors is similar.



**Figure 5. Remote Control Wiring**

- Pin 1 is 10 VDC reference voltage.
- Pin 2 (Vol/Mute) has two functions:
  - a. It can be used as a variable voltage input between 0 and 10 VDC, with 0 V giving full attenuation and 10 V giving maximum volume.
  - b. It can be used for remote control muting. Sound is muted while the mute pin is shorted to ground.
- Pin 3 is ground.

**NOTE:** All nominal levels are at  $\pm 10\%$ .

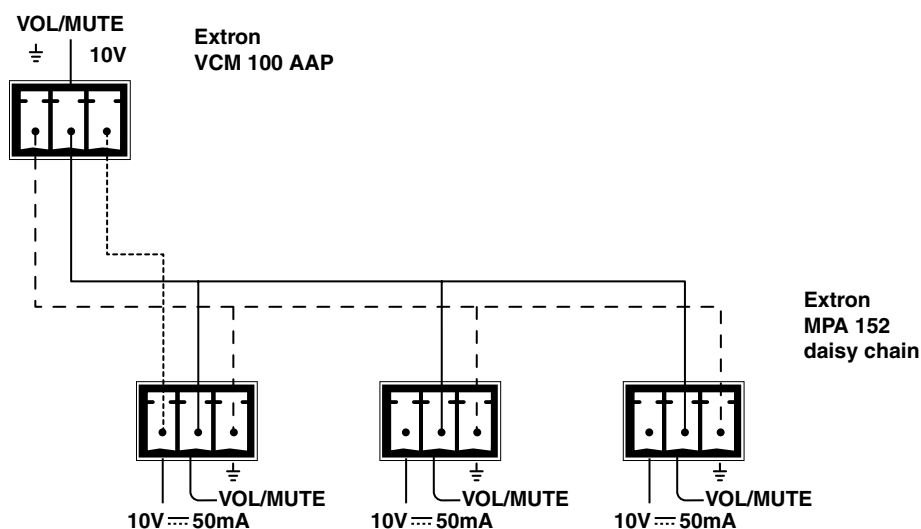
### Controlling multiple amplifiers with one volume controller

Several MPA 152 units can be daisy-chained so that one volume controller can simultaneously regulate the volume of all the amplifiers.

#### NOTES:

- As additional amplifiers are added to the daisy chain, the sensitivity of the volume potentiometer will change. The maximum volume level (fully clockwise) will not be affected. However the effectiveness of the minimum volume level (fully counterclockwise) in reducing the volume to inaudible levels decreases as more amplifiers are added to the daisy chain.
- When more than two MPAs are attached to the chain, sound may begin to be heard even if the levels have been set to their lowest. The muting of the output however can be remedied with a contact closure button attached between the Vol/Mute and Ground pin of the first MPA in the chain.

1. Attach all three pins of the volume controller to the corresponding pins on the first MPA 152 unit only (ground to ground; Vol/Mute to Vol/Mute; and 10 V to 10 V).
2. Use jumper wires to connect the Vol/Mute pins of the first amplifier and each successive amplifier.
3. Use jumper wires to connect the ground pins of the first amplifier and each successive amplifier.



**NOTE:** The 10V pin of the volume controller connects to the first MPA 152 only. There are no jumper wires linking it to subsequent amplifiers.

⑥ **Speaker connector** — This 4-pole, 5 mm captive screw connector is used to connect the amplifier to the speakers.

With an 8 ohm load, the amplifier produces up to 8 watts per channel. With a 4 ohm load, the amplifier produces up to 15 watts per channel.

See the **attention** and **note** on page 5 for important information about connecting wires to captive screw connectors.

8

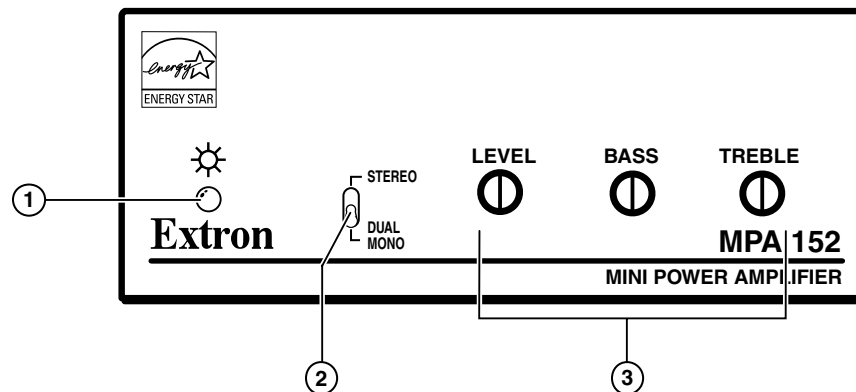
# Setup and Operation

This section discusses:

- **Front Panel Features**
- **Remote Control Options**
- **Troubleshooting**

## Front Panel Features

This section describes how to use the controls on the MPA 152 front panel (shown in figure 7 below) to configure the amplifier and how to set up the remote control options.



**Figure 7. MPA 152 Front Panel**

- ① **Power LED** — The LED lights green when the MPA 152 unit is receiving power and active. It lights amber when the unit is on standby (after 25 minutes of inactivity).
- ② **Stereo or Dual Mono toggle switch** — Allows the user to choose between stereo output for stereo applications (default) or dual mono output for mono applications.
- ③ **Potentiometers** — Three front panel potentiometers are used to optimize input level, bass, and treble settings.

## Setting Input Level

Adjust the MPA 152 input level as follows:

1. Unplug the remote plug from the unit.
2. Turn the Level potentiometer fully counterclockwise to its minimum setting.
3. Set the volume of the audio source to its maximum level. No sound should come out.
4. Slowly increase the MPA 152 level until sound distortion starts to occur. Lower the level slightly until the distortion disappears. This setting will ensure that, whatever the volume setting of the audio source, no clipping will occur.

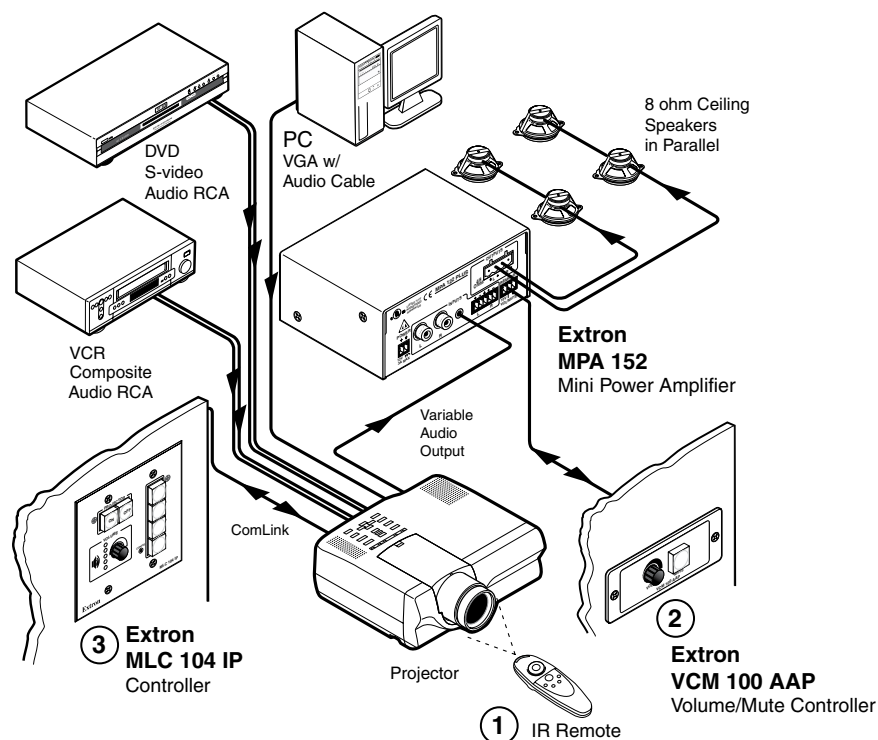
## Setting Bass and Treble

Adjust the MPA 152 bass and treble as follows:

1. Use the Bass potentiometer to increase or decrease the bass shelving  $\pm 10$  dB at 80 Hz and below.
2. Use the Treble potentiometer to increase or decrease the treble shelving  $\pm 10$  dB at 10 kHz and above.

**NOTE:** Turning the Bass or Treble potentiometers counterclockwise will decrease the output at the specified frequencies. Turning the potentiometers clockwise will increase the output. When the potentiometer is in the center, flat response is achieved.

## Remote Control Options



**Figure 8. Typical Application for the MPA 152, Using Remote Control**

- ① **Using the IR remote for the projector** — When using a projector with variable audio outputs, connect the projector audio output to the MPA 152 audio input. Use the IR remote for the projector to control the volume of the projector, which effectively controls the volume of the MPA 152.
- ② **Extron volume controllers** — Extron provides a range of volume and mute controllers that offer a remote control option for use with a projector that lacks variable audio outputs. These options control the MPA 152 volume directly. See page 7 for more information about “[Wiring for remote control.](#)”
- ③ **Using a MediaLink® Controller** — For a projector with variable audio output, connect the projector audio output to the MPA 152 audio input. Use a MediaLink controller to adjust the volume of the projector via RS-232. MediaLink controllers can also use the IR remote to adjust the volume of the projector and thus the input to the amplifier.

## Troubleshooting

Under different circumstances, the front panel LED lights green or amber, which provides diagnostic information.

### Amplifier Fails to Exit Standby Mode Promptly

Power LED Color	Problem Description	Problem Solution
Amber	No output signal.	<ul style="list-style-type: none"><li>No input detected: verify that there is an input signal. If a signal is present, raise the level of the source signal.</li></ul>
Green	No output signal.	<ul style="list-style-type: none"><li>The amplifier may be in mute mode. Check the remote port.</li></ul>
Green or Amber	Slow to exit standby mode when a signal is present.	<ul style="list-style-type: none"><li>The input signal may be too weak. Raise the level of the source signal.</li></ul>

### Amplifier Enters Standby Mode Too Early

Power LED Color	Problem Description	Problem Solution
Green or Amber	Enters standby mode early.	<ul style="list-style-type: none"><li>The input signal may be too weak. Raise the level of the source signal.</li></ul>

# Reference Material

This section provides information about:

- [Included Parts](#)
- [Optional Accessories](#)
- [Mounting](#)

## Included Parts

Description	Part Number
MPA 152	60-844-02
PS 1220 external 12 V, 2 A power supply	70-967-01
IEC power cord	
(1) 4-pole 5 mm terminal block plug	
(1) 5-pole 3.5 mm captive screw plug	
(1) 3-pole 3.5 mm captive screw plug	
(1) 2-pole 3.5 mm power captive screw plug	
<i>MPA 152 Setup Guide</i>	

## Optional Accessories

Description	Part Number
RSB 123 (3.5 inch deep, 1U basic rack shelf)	60-604-21
RSF 123 (3.5 inch deep, 1U rack shelf kit)	60-190-20
RSB 126 (6 inch deep, 1U basic rack shelf)	60-604-11
RSU 126 (6 inch deep, 1U rack shelf kit)	60-190-10
RSB 129 (9.5 inch deep, 1U basic rack shelf)	60-604-02
RSU 129 (9.5 inch deep, 1U rack shelf kit)	60-190-01
MBB 100 Back of rack mounting kit	70-367-01
MBU 125 Under-desk mounting kit	70-077-01
ZipClip™ 200	101-001-01
PMK 100 Pole mount kit	70-217-01
PMK 300 Pole mount kit	70-374-01
PMK 350 Pole mount kit	70-563-03

Description	Part Number
VC 50 Volume control wall plate	70-530-02
VCM 100 AAP Volume/mute - AAP	70-396-11
VCM 100 MAAP Volume/mute - MAAP	70-397-11
VCM 200 D Volume control wall plate	70-883-02
VCM 200 EU Volume control wall plate	70-884-05
VCM 200 MK Volume control wall plate	70-884-03
MLA VC10 Plus Volume control module	60-1090-01
SM 3 compact, full range speakers with SpeedMount™ (Black, White)	42-133-xx
SI 3CT LP full range ceiling speakers	42-103-03
SI 26 two way surface mount speakers (Black, White)	42-072-xx
SI 26X two way open back ceiling speakers	42-067-03
FF 120T Flat Field® speakers	42-120-13
FF 220T Flat Field speakers	42-141-03
SPK14/1000 Non-Plenum 1000 feet (300 m) spool	22-152-03
SPK14P/1000 Plenum 1000 feet (300 m) spool	22-155-03
SPK16/1000 Non-Plenum 1000 feet (300 m) spool	22-151-03
SPK16P/1000 Plenum 1000 feet (300 m) spool	22-154-03
SPK18/1000 Non-Plenum 1000 feet (300 m) spool	22-150-03
SPK18P/1000 Plenum 1000 feet (300 m) spool	22-153-03

## Mounting

### Plenum Placement

The MPA 152 amplifier complies with Section 300.22 (c) of the National Electrical Code and is suitable for use in an Environmental Air Space. It can be installed in the ceiling, out of sight, with reduced risk of theft.

**ATTENTION:** Although the amplifier is plenum rated, the power supply provided with it is not. The power supply must not be placed in the plenum space. Cables to and from the amplifier must also be plenum rated.

### Tabletop Placement

Attach the four provided rubber feet to the bottom of the unit and place it in any convenient location.

## Rack Mounting

### UL Guidelines for Rack Mounting

The following Underwriters Laboratories (UL) guidelines are relevant to the safe installation of this product in a rack:

- 1. Elevated operating ambient temperature** — If the unit is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the equipment in an environment compatible with the maximum ambient temperature (TMA: +122 °F, +50 °C) specified by Extron.
- 2. Reduced air flow** — Install the equipment in the rack so that the equipment gets adequate air flow for safe operation.
- 3. Mechanical loading** — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.
- 4. Circuit overloading** — Connect the equipment to the supply circuit and consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Appropriate consideration of the equipment nameplate ratings should be used when addressing this concern.
- 5. Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (such as the use of power strips).

### Rack Mounting Procedure

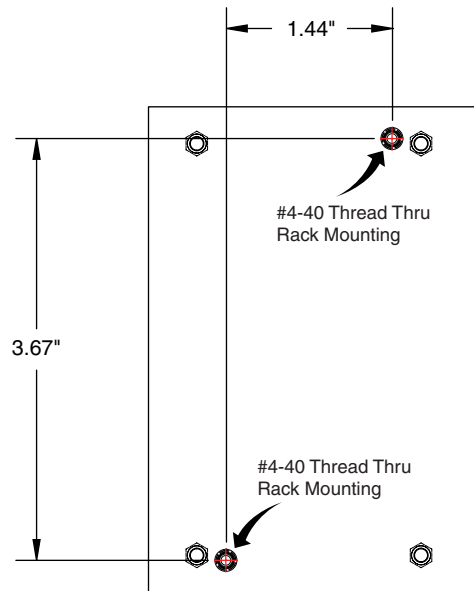
The unit can be mounted on any of these optional Extron rack systems:

- RSF 123 — 3.5 inch deep, 1U universal rack shelf kit (part number **60-190-20**)
- RSB 123 — 3.5 inch deep, 1U basic rack shelf (part number **60-604-21**)
- RSU 126 — 6 inch deep, 1U universal rack shelf kit (part number **60-190-10**)
- RSB 126 — 6 inch deep, 1U basic rack shelf (part number **60-604-11**)
- RSU 129 — 9.5 inch deep, 1U universal rack shelf kit (part number **60-190-01**)
- RSB 129 — 9.5 inch deep, 1U basic rack shelf (part number **60-604-02**)

To mount the amplifier on a rack shelf, follow the instructions provided with the shelf accessories.



**ATTENTION:** Use only the two holes indicated in the diagram below for mounting the MPA 152. The other four holes anchor stand-offs for the internal circuit boards; using them may damage the amplifier and will not provide secure mounting for the unit.



## Back of the Rack Mounting

The unit can be mounted at the back of a rack rail using the MBB 100 mounting kit (part number **70-367-01**). Follow the instructions provided with the kit.

## Under-desk Mounting

Mount the unit under a desk or podium, using the optional Extron MBU 125 under-desk mounting kit (part number **70-077-01**) by following the instructions provided with the MBU 125 kit.

## Pole Mounting

The amplifier can be mounted above a projector using any of these optional Extron Pole Mounting Kits:

- PMK 100 Pole mount kit (part number **70-217-01**)
- PMK 300 Pole mount kit (part number **70-374-01**)
- PMK 350 Pole mount kit (part number **70-563-03**)

Follow the instructions provided with the kit.

## ZipClip™ 200 Mounting

The unit can be mounted under furniture or to a rack rail using the ZipClip 200 (part number **101-001-01**). Follow the instructions provided with the mounting kit.

## Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

**USA, Canada, South America,  
and Central America:**

Extron Electronics  
1001 East Ball Road  
Anaheim, CA 92805  
U.S.A.

**Japan:**

Extron Electronics, Japan  
Kyodo Building, 16 Ichibancho  
Chiyoda-ku, Tokyo 102-0082  
Japan

**Europe and Africa:**

Extron Europe  
Hanzeboulevard 10  
3825 PH Amersfoort  
The Netherlands

**China:**

Extron China  
686 Ronghua Road  
Songjiang District  
Shanghai 201611  
China

**Asia:**

Extron Asia  
135 Joo Seng Road, #04-01  
PM Industrial Bldg.  
Singapore 368363  
Singapore

**Middle East:**

Extron Middle East  
Dubai Airport Free Zone  
F12, PO Box 293666  
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

**NOTE:** If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

**USA:** 714.491.1500 or 800.633.9876  
**Asia:** 65.6383.4400

**Europe:** 31.33.453.4040  
**Japan:** 81.3.3511.7655

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

Extron Headquarters	Extron Europe	Extron Asia	Extron Japan	Extron China	Extron Middle East	Extron Korea	Extron India
+1.800.633.9876 (Inside USA/Canada Only)	+800.3987.6673	+800.7339.8766	+81.3.3511.7655	+4000.398766	+971.4.299.1800	+82.2.3444.1571	1800.3070.3777
Extron USA - West	Extron USA - East	(Inside Europe Only)	(Inside Asia Only)	Inside China Only	+971.4.299.1880	+82.2.3444.1575 FAX	Inside India Only
+1.714.491.1500	+1.919.850.1000	+31.33.453.4040	+65.6383.4400	+86.21.3760.1568			+91.80.3055.3777
+1.714.491.1517 FAX	+1.919.850.1001 FAX	+31.33.453.4050 FAX	+65.6383.4664 FAX	+86.21.3760.1566 FAX			+91.80.3055.3737 FAX